=Temnodon *Cuvier*, Règne Animal, t. 2, p. 346, 1817.
=Sypterus *Eichwald*, Fauna Caspio-Caucasica, p. —? (fide Bonaparte), ? 1841.
=Chromis *Gronow*, Systema Ichthyologicum (1780), publ. by J. E. Gray, p. —, 1854.
=Pomatomus *Gill*, Proc. Acad. Nat. Sc. Phila., [v. 14,] p. 443, 1862.
=Cheilodipterus *Bleeker*, Nat. Verhandel. Holl. Maatschapij Wetenschappen (3), v. 2, no. 1, p. 74, 1874.
=Sparactodon *de Rochebrune*, Bull. Soc. Philomathique Paris (7), t. 4? pp. 159–169 (yg.), 1880 (identified with "Temnodon" by *Steindachner*, Denkschr. k. Akad. Wiss., Math.-Nat. Cl., v. 14, p. 51, 1882.

DOES THE PANTHER (FELIS CONCOLOR) GO INTO THE WATER TO KILL FISH?

BY LIVINGSTON STONE.

[Letter to Prof. S. F. Baird.]

My mind has been quite exercised lately on the question whether panthers go into the water to kill fish. They are so numerous and bold here this year, that they come to our very doors and kill pigs and fowls under our windows. We estimate that they have killed a hundred dollars' worth of hogs here this season, besides calves, colts, and full grown cattle and horses. As far as boldness is concerned, they are fully equal to jumping into our trout ponds and killing our trout. And if you think they are likely to do this, we will take special precautions against it. They easily jump over any obstacle not more than 15 feet high, so that our fences are no protection from them.

They frequently swim the river, which made me think that perhaps they might get into the trout ponds sometimes for a meal of fish.

United States Fish Commission,
Baird, Shasta County, California, September 21, 1882.

ON CERTAIN NEGLECTED GENERIC NAMES OF LA CÉPÈDE.

BY DAVID S. JORDAN AND CHARLES H. GILBERT.

In the Histoire Naturelle des Poissons (1799–1803) of La Cépède a considerable number of generic names are proposed, some of them founded on errors of various sorts, others properly defined. About one-fourth of these were adopted by Cuvier and Valenciennes, and have come into general use. A large number are simple synonyms. The remainder, for different reasons, were set aside by Cuvier and Valenciennes, and new names proposed in their places. As the laws of priority are constantly becoming more and more urgent, we find ourselves obliged to go behind Cuvier, and to adopt these earlier names.

The present paper contains a discussion of some of these names, the adoption of which would affect the nomenclature of American fishes.

1. HIATULA.

In Gmelin's edition of the Systema Naturæ, p. 1287, under the genus *Làbrus*, the following description appears:

* * Cauda integra.

Hiatula. 12. L. pinna anali nulla. Br. 5, D. $\frac{17}{2.8}$, P. 16, $V\frac{1}{0}$, A. 0. C. 21.

Habitat in Carolina, *fasciis nigris, 6–7 pictus.* D. Garden. Labium retractile, intus rugosum; dentes *in mandibulis laniarii, in palato orbiculati;* branchiarum *operculum anterius margine punctatum;* pinna *dorsalis fere longitudinalis, radiis spinosis æqualibus, posterius nigra.*

With the exception of the two characters, absence of the anal fin, and presence of rounded teeth on the palate, which belong to no fish of this type, this description applies well to a young tautog, and to no other fish which Dr. Garden could have obtained at Charleston. The specimen most likely was one in which the anal fin had been bitten off, an accident to which fishes are not unfrequently subject. The rounded teeth on the palate must be either the posterior teeth of the premaxillaries, which are bluntish, or possibly the papillæ which cover the membrane before the vomer.

In the second volume of La Cépède's work (ii, 522, 1800), this species appears under the name of *Hiatula gardeniana*, as the type of a new genus, *Hiatula*, distinguished from *Labrus* by the absence of the anal fin.

As this character was merely the accident of a mutilated specimen, this genus is a virtual synonym of *Labrus*, and by many writers would be suppressed as such. The name *Hiatula*, however, stands on the same footing as that of *Micropterus*, which was likewise based by La Cépède on a mutilated fish. As *Micropterus* has now come into general use, we suggest that *Hiatula* be substituted for *Tautoga*.

2. GOBIOMORUS.

The genus *Gobiomorus* was proposed by La Cépède (Hist. Nat. Poiss. ii. 583, 1800) as a subdivision of the Linnæan genus Gobius, with the following definition:

"Les deux nageoires thoracines non réunies l'une à l'autre; deux nageoires dorsales: la tête petite; les yeux rapprochés; les opercules attachés dans une grande partie de leur contour."

In definition and in intention, this group corresponds to the genus *Eleotris* of Bloch and Schneider, as revised and restricted by Cuvier, for Bloch and Schneider seemed to have no clear idea of the group, and very few of the species referred by them to *Eleotris* are related to *Eleotris gyrinus*.

Four species are referred by La Cépède to *Gobiomorus*, viz, *G. gronovii* (=*Nomeus gronovii* (Gmelin) C. & V.) *G. taiboa* (=*Eleotris strigata* (Broussonet) C. & V.) *G. dormitor* Lac. (later called *Platycephalus dormi-*

tator by Bloch & Schneider = *Philypnus dormitator* (Lac.) C. & V.) and *G. kælreuteri* (= *Periophthalmus kælreuteri* (Gmelin) Bloch & Schneider).

Of these species, the first, *gronovii* has no relation to *Gobius*, and does not correspond to the definition of *Gobiomorus*, as the gill membranes are free from the isthmus. Its association with the Gobies is an error which originated with Gmelin. It may therefore be omitted from consideration. The remaining modern genera included in *Gobiomorus*, viz, *Eleotris* Bloch & Schneider, 1801 (Subgenus *Valenciennea* Bleeker, 1856), *Philypnus* Cuv. & Val., 1837, and *Periophthalmus* Bloch & Schneider, 1801, are all subsequent to *Gobiomorus*, and in place of one of them the latter name must be retained. It has not as yet been restricted by any author, so far as we know. It seems to us best to consider as the type of *Gobiomorus*, *G. dormitator* LaCépède, and therefore to use the name *Gobiomorus* instead of *Philypnus*. A serious practical objection to the consideration of *taiboa* (*strigatus*) as the type of *Gobiomorus* lies in the uncertainty whether this species is really congeneric with *Eleotris gyrinus*, (which species must, we think, as "*Eleotris pisonis*," be considered the type of *Eleotris*). In Bleeker's system, *strigatus* is made the type of a distinct genus (*Valenciennea* Bleeker) and placed at a distance from *Eleotris*, but no diagnostic features of importance have been made known by which it may be distinguished.

3. GOBIOMOROIDES.

The genus *Gobiomoroides* was proposed by La Cépède (Hist. Nat. Poiss., ii.. 592, 1800), with a definition identical with that of *Gobiomorus* except that "une seule nageoire dorsale" is substituted for "deux nageoires dorsales." Its type is *Gobiomoroides piso* La Cépède, a species which is considered by La Cépède identical with *Gobius pisonis* Gmelin, the "*Eleotris*" of Gronow.

Gobius pisonis Gmelin is identified by Cuvier & Valenciennes with *Eleotris gyrinus*, with considerable doubt, however, as the descriptions and figures of the former species are both incomplete and erroneous. The identity is probably too doubtful to warrant the use of the specific name *pisonis* for *gyrinus*. La Cépède's description of *G. piso*, is, however, not taken from Gmelin, but from a dried fish "given by Holland to France." This specimen has 45 rays in the dorsal which is continuous, 23 in the anal, and the lower jaw has a series of canines besides the cardiform band. Whatever this fish may be, it is not an *Eleotris*, and the name *Gobiomoroides* cannot be used for *Eleotris gyrinus*, even if it be shown that this species is identical with *Gobius pisonis* Gmelin.

4. KYPHOSUS.

The genera *Kyphosus* (La Cépède, Hist. Nat. Poiss., iii, 114, 1802), *Pimelepterus* (l. c. iv., 429, 1803): *Dorsuarius* (l. c. v., 482, 1803), and *Xyster* (l. c. v. 484, 1803), are identical, as has been shown by Cuvier

and Valenciennes, vii, 254. The earliest of these names should be used, and *Kyphosus* should therefore supersede *Pimelepterus*. The word should however be spelled with an initial C, as *Cyphosus*.

5. MONODACTYLUS.

The genera, *Monodactylus* La Cépède (Hist. Nat. Poiss., iii, 131, 1802, *M. falciformis* Lac.), *Centropodus* La Cépède (iii, 303, *C. rhombeus* Lac.), and *Acanthopus* (iv, 558; *A. argenteus* (Gmelin) and *A. Boddaerti* (Gmelin)) are all based on species of the genus afterwards called *Psettus* Cuv. & Val. This genus should therefore receive the name of *Monodactylus*.

6. SCOMBEROMORUS.

Scomberomorus (iii. 293; *S. plumierii* La Cép.) is based on a drawing by Plumier. The genus is distinguished from *Scomber* by the supposed continuity of the dorsal fins, a fallacious character. The species is identical with *Scomber regalis* Bloch, and the name *Scomberomorus*, if accepted, must supersede *Cybium* Cuv. & Val.

7. CEPHALACANTHUS.

It appears to be reasonably certain that the small fishes which have received the name of *Cephalacanthus* La C. (iii, 323, 1802; *C. spinarella* L.) are the young of, or, at least, not generically different from, the Flying Gurnards (*Dactylopterus* La C. iii, 325). The name *Cephalacanthus* has two pages priority, and should in strictness supersede *Dactylopterus*. The application of the law of priority to different parts of the same work is often as important for the avoidance of confusion as its application to different works. The law of primogeniture applies to twins.

8. DIPTERODON.

The genus *Dipterodon* La C. (Hist. Nat. Poiss., iv, 165, 1803) is based on six species, mostly unrelated, belonging to *Lutjanus*, *Apogon*, *Aspro*, and *Sciæna*. The first of this species, *D. plumieri*, is identical with *Lutjanus synagris*, and the name may be considered as a synonym of *Lutjanus*.

The sixth species mentioned, "*Dipterodon chrysourus*," is evidently identical with *Sciæna argyroleuca* (Mitch.), the second of the two species called "*Perca punctata*" by Linnæus in the Systema Naturæ. If the duplicated Linnæan name be restricted to the first species to which it was given (*Epinephelus punctatus*), the name *chrysura* must take the place of *argyroleuca*, and the species stand as *Sciæna* (*Bairdiella*) *chrysura*.

The name *Dipterodon* has been used by Cuv. & Val. for a genus unknown to La Cépède. This transfer of the name is not allowable, and the *Dipterodon* C. & V. should receive a different name, that of *Coracinus* Gronow (1854).

9. CHÆTODIPTERUS.

Chætodipterus (iv., 503; *Chætodon plumieri*, Gmelin.) is correctly distinguished from *Chætodon*, by the separation of the dorsal fins. Its type is identical with *Zeus faber* Broussonet. The name *Chætodipterus* must therefore supersede *Parephippus* Gill, as Bleeker has already shown.

10. POMADASYS.

Pomadasys (iv. 515) is based on *Sciæna argentea* Forskäl, which is a species of Cuvier's genus *Pristipoma*, according to Günther and Cuvier. The generic description is not altogether correct, but is copied from the specific description of Forskäl. The name *Pomadasys* must therefore take the place of *Pristipoma*, a change already made by Cantor and Bleeker.

11. CLUPANODON.

The genus *Clupanodon* was proposed by La Cépède (Hist. Nat. Poiss., v. 468, 1803) for those species of *Clupea* which had no teeth in the jaws, and with the following definition:

"Plus de trois rayons à la membrane des branchies, le ventre carenè; la carène du ventre dentelée ou très-aigus; la nageoire de l'anus separée de celle de la queue; une seule nageoire sur le dos; point de dents aux mâchoires."

Six species are referred by La Cépède to this genus, viz:

thrissa (L.). (*Opisthonema* Gill.)
nasica Lac. (*nasus* Bloch). (*Dorosoma* Raf.)
pilchardus L. (*Sardinia* Poey.)
sinensis L. (*Clupeonia* C. & V.)
africanus Bloch. (*Pellona*, C. & V.)
jussieu Lac. (*Clupeonia* C. &. V.)

One of these, *Pellona africana*, does not conform to the definition and should be excluded. All the others (except *Dorosoma nasus*) are very closely related, and are probably all representatives of sections of the genus *Clupea* rather than of distinct genera. The name of *Clupanodon* is prior to all of these and must take the place of one of them. So far as we know, it has never been formally restricted. It seems to us best to consider *C. jussieui* as the type of *Clupanodon*, and to substitute *Clupanodon* for *Clupeonia*.

12. GYMNOMURÆNA.

The genus *Gymnomuræna* La Cépède (Hist. Nat. Poiss., v. 648, 1803), was defined as follows:

"Point de nageoires pectorales; une ouverture branchiale sur chaque côté du poisson; le corps et la queue presque cylindriques; point de nageoire du dos, ni de nageoire de l'anus; ou ces deux nageoires si

basses et si enveloppées dans une peau épaisse, qu'on ne peut reconnoître leur présence que par la dissection."

Two species are mentioned, *Gymnomuræna doliata* La C. (=*Echidna zebra* (Shaw) Bleeker) and *Gymnomuræna marmorata* (=*Murænoblenna marmorata*), both of which agree fairly with the generic definition.

The first restriction of the genus *Gymnomuræna* is that of Kaup (Apodes, 1856, 103), in which *zebra* (*doliata*) is regarded as the type; and the group is recognized (probably correctly) as distinct from *Echidna* Forster (=*Pœcilophis*, Kaup).

Later Dr. Günther (Cat. Fish, Brit. Mus., viii, 133, 1870) has restricted the name *Gymnomuræna* to the second species of La Cépède (*marmorata*). This arrangement seems to us not allowable. The first proper restriction must hold, and the name *Gymnomuræna* henceforth go with *G. doliata.*

13. MURÆNOBLENNA.

The group called by Dr. Günther *Gymnomuræna* should stand as *Murænoblenna* La Cépède (Hist. Nat. Poiss., v. 652, 1803). This genus is based on a single species, *M. olivacea* La C., and is defined as follows:

"Point de nageoires pectorales; point d'apparence d'autres nageoires; le corps et la queue presque cylindriques; la surface de l'animal repandant en très grande abandance, une humeur* laiteuse et gluante."

14. MACRORHAMPHOSUS.

The genus *Macrorhamphosus* La Cépède (v. 136) is based on *Silurus cornutus* Forskål=*Centriscus scolopax* L. In the tenth edition of the Systema Naturæ, Linnæus refers to his genus *Centriscus* but one species, *C. scutatus.* This species should, therefore, properly be taken as the type of *Centriscus* (=*Amphisile* Cuv.), while the name *Macrorhamphosus* should be used for *C. scolopax* and its relatives, the group usually called *Centriscus.*

The following is a summary of the changes in nomenclature suggested in the present paper:

HIATULA La Cépède for *Tautoga* Mitchill.
GOBIOMORUS La Cépède for *Philypnus* Cuv. & Val.
CYPHOSUS La Cépède for *Pimelepterus* La Cépède.
MONODACTYLUS La Cépède for *Psettus* Cuv. & Val.
SCOMBEROMORUS La Cépède for *Cybium* Cuv. & Val.
CEPHALACANTHUS La Cépède for *Dactylopterus* La Cépède.
SCIÆNA (BAIRDIELLA) CHRYSURA (La Cép.) Jor. & Gilb. for *Sciæna* (*Bairdiella*) *argyroleuca* (Mitchill), J. & G.
CHÆTODIPTERUS La Cépède for *Parephippus* Gill.
POMADASYS La Cépède for *Pristipoma* Cuv. & Val.

* Hence the name; "Blenna, en grec, signifie *mucosité.*" (La Cépède.)

CLUPANODON La Cépède for *Clupeonia* Cuv. & Val.
GYMNOMURÆNA La Cépède for *Muræna zebra* Günther and affines.
MURÆNOBLENNA La Cépède for *Gymnomuræna* Günther.
MACRORHAMPHOSUS La Cépède for *Centriscus* Auct.
CENTRISCUS L. for *Amphisile* Auct.

INDIANA UNIVERSITY, *October* 4, 1882.

ON THE SYNONYMY OF THE GENUS BOTHUS RAFINESQUE.

BY DAVID S. JORDAN AND CHARLES H. GILBERT.

In the Caratteri di Alcuni Nuovi Generi, etc., 1810, 23, the genus *Bothus* is established by Rafinesque for flounders, which are allied to the European turbot. Three species are referred to this genus: *B. rumolo* Raf., *B. tappa* Raf., and *B. imperialis* Raf. The first of these is, according to Bonaparte (Cat. Metod. dei Pesci Europ., 1846, 49) identical with *Pleuronectes rhombus* L.; the third, with the Turbot *Pl. maximus* L., and the second has not yet, so far as we know, been identified. The relations of these fishes to the Linnæan *Pl. rhombus* seems to have understood by Rafinesque, who observes that he should have called the genus *Rhombus*, had not La Cépède removed the latter name to another genus. It will be, therefore, not unfair to take the first species mentioned by Rafinesque, and which is really identical with *Pleuronectes rhombus* L., as the type of his genus *Bothus*. A group substantially identical with this had been previously outlined by Klein under the name of *Rhombus*. This name was afterwards accepted by Cuvier for the Turbot and its relatives, and has now come into general use. If we adopt the pre-Linnæan and non binomial generic names proposed by Klein, as has been done by Bleeker, and formerly by Professor Gill, the name *Rhombus* must be used for this group. If we reject these pre-Linnæan names, as is now the custom of most writers, the *Rhombus* of Cuvier is antedated by *Rhombus* of La Cépède (=*Peprilus* Cuvier), and moreover, it is not the earliest name of the group in question.

In the Indice d' Ittiologia Siciliana, 1810, p. 53, a few months later than the "Caratteri," a genus "*Scophthalmus*" is thus defined: "Ale giugulari ed ale caudale sciolte, occhj alla sinistra."

Three species are referred to this genus (p. 14): *Pleuronectes maximus* L., *Pleuronectes rhombus*, L., and a new species based on an erroneous and indeterminable figure of Rondelet, which receives the name of *Scophthalmus diurus*. Rafinesque's genus *Scophthalmus* is therefore equivalent to his own *Bothus*, the sole difference between them being, according to Bonaparte (l. c., p. 49), that *Bothus* was founded on actual specimens ("ex natur") and *Scophthalmus* on the descriptions of others ("ex auct").

Later, as already stated, both these fishes, with others, received the